Design Course

Compositing and Effects

Combining Different Elements

by
Phidi Pulu
IDC, IIT Bombay

Source:
https://www.dsource.in/course/compositing-and-effects

1. Introduction
2. 2D Animation
3. 3D Animation
4. Video
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Introduction

It is a process of merging/combining different elements like CG images, clips, matt painting, plates (original or raw green screen footages of life action) and special effects together creatively.

And create an illusion that all these elements are part of the same seamless scene.

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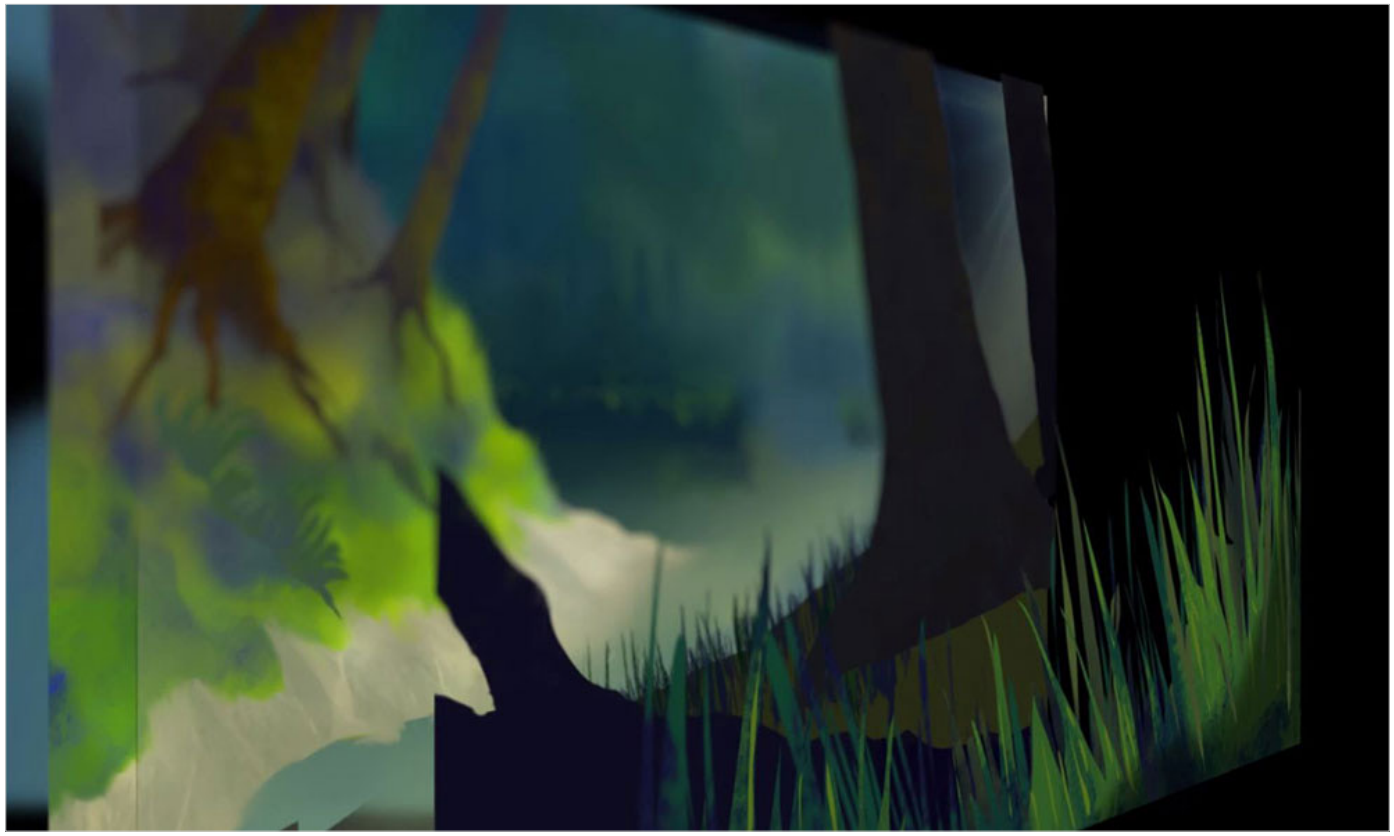

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In both 2D and 3D Animation studio's pipeline, compositing falls at the Production level and mostly at the end/ bottom of the production process. Compositing artistes are known as Compositors. A Compositor needs to have a thorough understanding and relevant artistic judgment for colors, light and shadows and composition/ staging.

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They need to be technically sound, have a know how of current software skills prevailing in market for Compositing. Be able to analyze and solve problems, ability to work under pressure when required, good communication skills and teamwork, ability to address constructive feedbacks and also deliver works on schedule.

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The final look and feel or style of the animation is very important. It is the Compositor's job to ensure that the established style of the project is respected and continuity is maintained throughout.

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2D Animation

In 2D animation, the workflow is divided in to Pre-Production, Production and Post-Production. Here Compositing happens at the Production phase. Other then Compositing, various other departments like, Layout, Animation and Effects also falls at the Production phase.

Since compositing is done only after all the final animation, necessary effects, painted background and foreground are done, compositing falls at the end of the Production. As all the animation, effects, background and foreground are done separately referring to the final layout, they need to be brought and compiled together to a single image/clip for the final rendering. And this process of creatively combining them together is done at the compositing stage.

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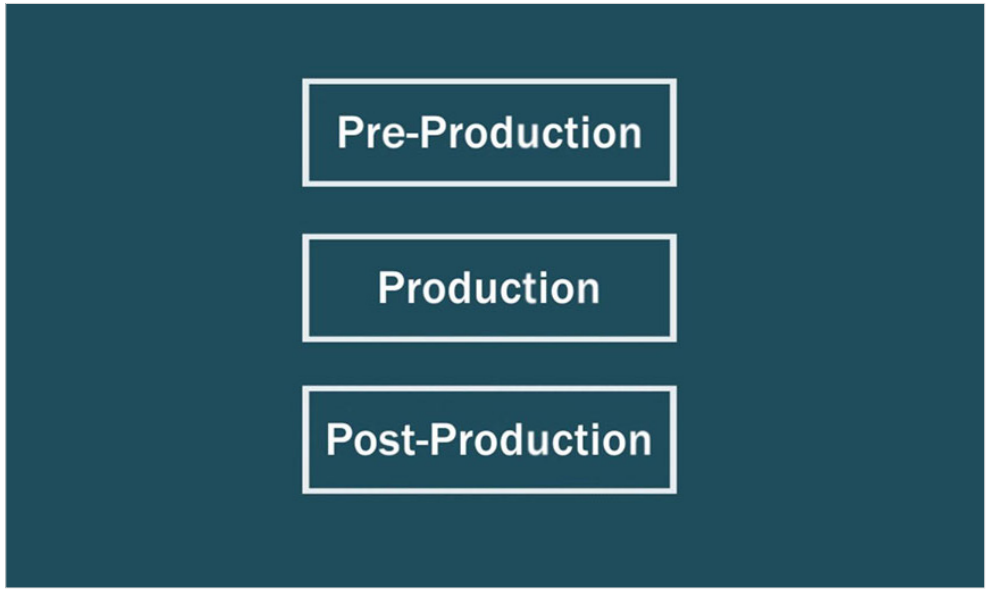
Good compositing helps in achieving effects like Parallax, illusion of depth in the film and helps in maintaining the desire style for the project throughout.



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3D Animation

Like 2D Animation workflow, 3D Animation workflow also has a similar structure. But unlike 2D Production stage, 3D Production stage comprises of additional departments like Modeling, Texturing and Rigging. Compositing, here in the 3D Production also falls almost at the end of the Production.

Compositing has a vital role in saving huge amount of time and budget in 3D production house. Compositing here primarily plays a 2D role within the 3D world of CGI and Visual Effects. Objects and environment done in 3D contains lot of data (information), the computer has to read each and every data to process them while rendering. This makes the rendering process very slow and time consuming, and even a time crashes a normal computer. Usually, powerful computers are used for rendering 3D assets. The pressure for rendering 3D assets is so huge that, there are big farms dedicated only for rendering purposes. Each object is rendered separately in layers and passes, hiding (Alfa) rest of the objects even if they belong to the same scene; this approach gives much control over each asset and their attributes during compositing. Once rendered, these sequences of layers and pass of the assets are brought and combined together creatively to form a single and a seamless image or clip, referring to the final layout by a compositor. Once assembled, color corrected, reviewed and small tweak if any are made, the clip is forwarded for the final rendering.

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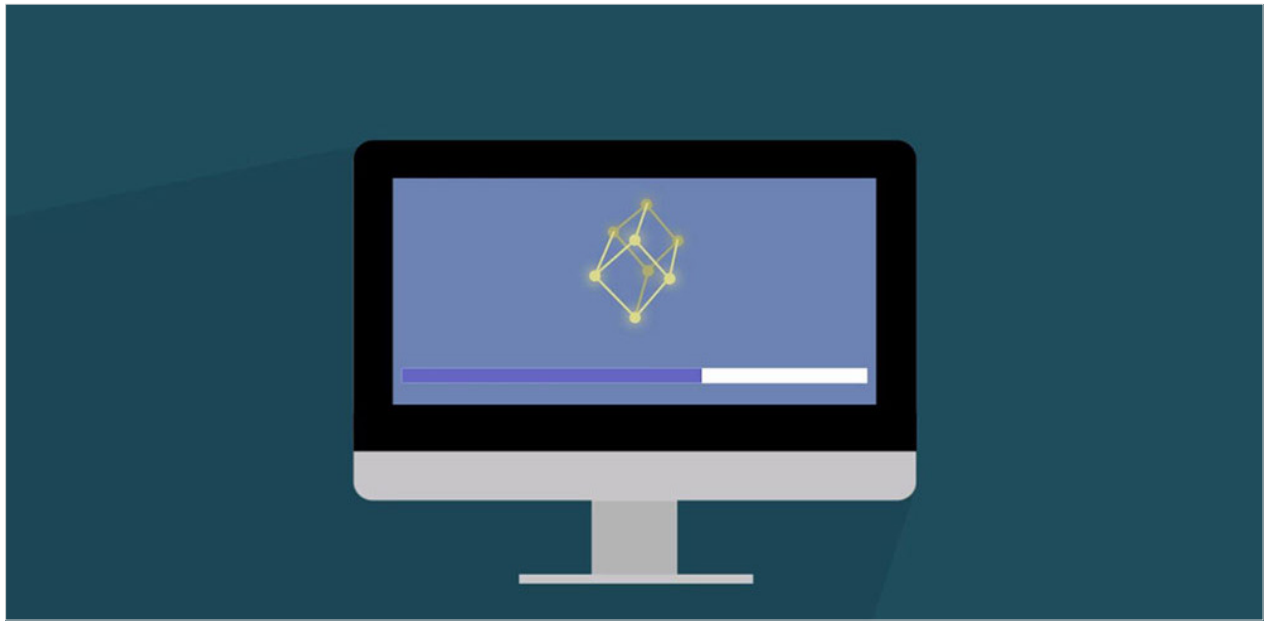

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If final render was to be done in 3D, imagine if any changes were to be made later, even for a small mistake. The whole rendering process would have to be repeated again, which will only sum up a huge amount of resources in terms of time and budget for the production house. So in 3D production houses, final rendering is done only after compositing. As the 3D assets are rendered separately for compositing, one does not have to re-render the whole clip, but only the part that needs to be corrected. Also since the 3D assets are rendered in sequences of images, they no longer holds the properties of 3D, later, after compositing it become much easier and faster to render them, as they do not contain information not required for the scene to be rendered.

Software for compositing used in the industry:

- Adobe After Effects
- Nuke
- Fusion
- Combustion
- Shake
- Motion
- Photoshop.

And these software's are either Node base or Layer base compositing.

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Video

Compositing and Expressions

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